WHAT IS CLAIMED IS:

1. An apparatus comprising:
   a. an analysis chamber containing one or more structures;
   b. one or more reagent reservoirs in fluid communication with the analysis chamber;
   c. a detection unit operably coupled to the structures; and
   d. a data processing and control unit.

2 The apparatus of claim 1, further comprising one or more nucleic acids attached to the structures.

3. The apparatus of claim 2, further comprising one or more polymerases in the analysis chamber.

4. The apparatus of claim 1, wherein the structures are cantilevers.

5. The apparatus of claim 1, wherein the detection unit comprises a position sensitive photodetector, a piezoelectric detector or a piezoresistor.

6. The apparatus of claim 1, wherein the detection unit comprises a laser.

7. The apparatus of claim 2, said detection unit to detect changes in mass of nucleic acids attached to said structures and/or the surface stress of said structures.

8. An apparatus comprising:
   a) an analysis chamber containing at least one cantilever;
   b) one or more nucleic acids molecules attached to the at least one cantilever;
   c) a detection unit to detect deflection of the at least one cantilever; and
   d.) a data processing and control unit.

9. The apparatus of claim 8, further comprising an information processing and control system.

10. The apparatus of claim 9, wherein the information processing and control system is a computer.

11. The apparatus of claim 8, wherein the detection unit comprises a laser and a position sensitive photodetector.

12. The apparatus of claim 8, wherein the detection unit comprises a piezoelectric detector, a piezoresistive detector or a piezomagnetic detector.

13. The apparatus of claim 8, wherein the nucleic acids molecules comprise a template from about 10 to approximately 100,000 nucleotides in length.

14. The apparatus of claim 8, further comprising an array of cantilevers, each associated with the same molecule.

15. The apparatus of claim 8, further comprising an array of cantilevers, each associated with a different molecule.

16. An apparatus comprising:

a) an analysis chamber containing at least one cantilever;

b) one or more nucleic acids molecules attached to the at least one cantilever;

c) a piezoresistive resistor embedded at the fixed end of at least one cantilever;

d) a detection unit to detect deflection of the at least one cantilever; and

e) a data processing and control unit.

17. The apparatus of claim 16, further comprising a resistance measuring device.

18. The apparatus of claim 16, wherein the nucleic acids molecules comprise a template from about 10 to approximately 100,000 nucleotides in length.

19. An apparatus comprising:

a) an analysis chamber containing at least one cantilever;

b) the at least one cantilever coated with a substance;

c) one or more nucleic acids molecules associated with the at least one cantilever;

d) one or more polymerases in the analysis chamber;

d) a detection unit to detect deflection of the at least one cantilever; and

e) a data processing and control unit.

20. The apparatus of claim 19, wherein the substance comprises an alloy.

21. The apparatus of claim 20, wherein the alloy is gold.

22. The apparatus of claim 18, wherein the nucleic acids molecules are anchored to the cantilever through a thiol group.